

State of Washington

SALMON RECOVERY PLAN MODEL

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CONTEXT

GENESIS OF THE “MODEL”

The 2001 Washington Legislature allocated \$1,000,000 of pass-through funding to the Washington Department of Fish and Wildlife (WDFW), and an additional \$2,000,000 became available from National Oceanic and Atmospheric Administration’s Fisheries Service [NOAA Fisheries; also known as National Marine Fisheries Service (NMFS)] through the Salmon Recovery Funding Board (SRFB) for development of adopted and ready-to-implement salmon recovery plans at the local or regional scale. Within this allocation, the Washington Legislature directed the WDFW to establish a model for local and regional salmon* recovery plans.

* “Salmon” in this context refers to all species of salmon, steelhead, trout and char native to

WDFW has developed this recovery plan model in collaboration with tribes, state agencies, NOAA Fisheries, U.S. Fish and Wildlife Service (USFWS), the Northwest Power and Conservation Council (NPCC) [formerly known as Northwest Power Planning Council (NPPC)], and local and regional salmon recovery planning efforts. The model incorporates the essential elements of a salmon recovery plan, acknowledges the differences in process and goals for a wide array of planning activities, and outlines the ways to economize by achieving multiple planning goals with one planning activity.

This model represents major themes gathered through review of a number of existing guidance documents and plans:

- ❑ NPCC's Technical Guide for Subbasin Planners¹
- ❑ Puget Sound TRT's Technical Guidance for Watershed Groups in Puget Sound²,
- ❑ NMFS' 1996 Coastal Salmon Conservation Guidance³ and existing recovery plans,
- ❑ Federal Policy for Evaluation of Conservation Efforts (PECE)⁴
- ❑ Puget Sound Shared Strategy plan outline⁵,
- ❑ Lower Columbia Fish Recovery Board table of plan contents⁶,
- ❑ Hood Canal and Juan de Fuca Summer Chum Salmon Conservation Initiative⁷, and
- ❑ Dept. of Ecology's Watershed Planning Guide⁸.

The general and essential elements of a recovery plan are not mysterious, but providing a template for those elements will generate a consistency in process and product that ensures the successful implementation of plans and achievement of their goals statewide.

OBJECTIVE OF THE “MODEL”

The objective of this model is to provide guidance that lends consistency among the different salmon recovery planning groups and products being developed in Washington.

In these lean budget times, it is critical to demonstrate how plans developed under this guidance can meet multiple needs. One obvious overlap within salmon recovery work is subbasin planning under the NPCC. In addition, Lead Entities established under Engrossed Substitute House Bill 2496, are developing strategies that contribute significantly to subbasin and/or recovery plans. When any or all of these are occurring simultaneously in the same watershed or region, planners can follow the guidance provided here with the expectation that, for overlapping topics, following this model will meet the needs for Lead Entity strategies, subbasin planning and recovery planning.

Many planners hope their recovery plans can be adopted by NOAA Fisheries and/or USFWS to meet requirements under section 4(f) Endangered Species Act (ESA). Accordingly, another objective for this document is to define what is needed for a federal recovery plan. Though an ESA Recovery Plan is an advisory document, the information provided by following this model could be used in its entirety, or pulled out and reformatted, to meet the requirements for ESA coverage. ESA coverage mechanisms include Section 10 Habitat Conservation Plans (HCPs), Section 7 Biological Assessments and Opinions (Bi-ops), Section 4(d) exceptions to Section 9 take prohibition, and others. Clearly, the level of ESA authorization granted would depend not only on the topics and specificity in the plan, but also the certainty the plan can/will be implemented as written.

“SALMON RECOVERY PLAN” DEFINED:

A recovery plan must include:

...“objective, measurable criteria which, when met, would result in a determination ... that the species be removed from the list;”

... “a description of such site-specific management actions as may be necessary to achieve the plan’s goal for the conservation and survival of the species;”

*...“estimates of the time required and the cost to carry out those measures needed to achieve the plan’s goals and to achieve intermediate steps toward that goal.”**

A salmon recovery plan, in the context of this model, is a comprehensive document that defines the actions necessary to recover one or more salmonid populations within a specified local area or region. A comprehensive salmon recovery plan includes:

- ❑ **scientific assessments** of the status of the species and its habitat;
- ❑ **factors for decline** or limiting recovery of the species;
- ❑ **measurable goals** that describe recovery for the listed species (in terms of population performance, environmental health, and administrative accountability) and against which the success of actions will be measured;
- ❑ **actions and commitments** for habitat, harvest, hatcheries and hydropower (the four “H” risk factors) that are necessary to reduce or eliminate the limiting factors and recover fish populations;
- ❑ **Implementation** components such as time lines, funding, research needs, monitoring plans and a method for evaluating actions and adapting the plan.

A comprehensive salmon recovery plan integrates habitat actions developed primarily at the local scale with the actions and implementation steps for hatchery and harvest

* Endangered Species Act, Section 4 [16 U.S.C. 1533] (f) (1) (B)

management developed primarily by WDFW, tribes, NOAA Fisheries and USFWS (i.e. integrates across “H’s”). The plan also shows how actions by various jurisdictions, authorities, geographies, ownerships and programs, including planning and regulations under the Growth Management Act (GMA), Shoreline Management Act (SMA), and Clean Water Act (CWA), work together to achieve recovery (geographic and authoritic integration).

The writer is encouraged to eliminate unnecessary duplication of information within the plan, and reduce verbiage by citing outside references and smaller- or larger-scale plans and programs as much as possible. For example, if the applicable harvest plan, Shoreline Master Program, or ESA Section 10 Habitat Conservation Plan (HCP), is already described in some other document, simply citing that document and briefly summarizing the actions and anticipated outcomes should suffice, as long as the reference is publicly available and accessible and meets the requirements for information to be included in the plan.

“REGION” DEFINED:

A salmon recovery region, in the context of recovery planning in Washington, is defined as Snake River, Northeast Washington, Upper Columbia Basin, Middle Columbia Basin, Lower Columbia River, Puget Sound and the Washington Coast ⁹.

NOAA Fisheries recovery planning activities are organized around discrete geographic areas, or domains: Puget Sound and the Olympia Peninsula, Willamette and Lower Columbia River basins; Mid- and Upper-Columbia River basins, and Snake River are NOAA domains in Washington. The number of Evolutionarily Significant Units (ESU) varies by domain.

USFWS bull trout recovery planning is organized into five distinct population segments (DPS), of which the Columbia Basin and Puget Sound–Coastal DPS’s are within Washington. The Columbia Basin segment is further divided into 22 recovery units, and the Coastal-Puget Sound DPS is divided into two units.

The NPCC has organized their multi-state region into provinces, 7 of which include lands within Washington: Intermountain, Blue Mountain, Columbia Cascade, Columbia Plateau, Columbia Gorge, Lower Columbia and Columbia River Estuary.

A geographic translation of planning boundaries, WRIAs and ESU/DPS is depicted on Table 1.

LINKAGES WITH OTHER SALMON RECOVERY PLANNING ACTIVITIES:

As noted above, numerous natural resource planning activities are underway in Washington that affect, and are affected by, salmon recovery activities. The focus of this document is the development of salmon recovery plans at a regional/ESU scale, though the concepts also apply for plans developed at sub-regional and watershed scales, and can even inform Lead Entity strategy development. Coordinating and

sharing participation, ideas and products among planning activities occurring at many geographic scales can achieve efficiencies.

Lead Entity Strategies and Project Lists:

Lead Entity restoration strategies and project lists developed for SRFB funding provide critical foundation for the habitat restoration strategies and actions presented in an all-H recovery plan. As Lead Entities move their strategies to the next level of sophistication, it is imperative that watershed-centered actions, or actions directed to specific populations, be linked to the all-H, multi-watershed, regional, and/or ESU/DPS scale.

Watershed Planning:

Likewise, ESHB 2514 watershed planning can contribute assessment information on water-related habitat processes. Water resource management plans can provide water supply, water quality and instream-flow related solutions in watersheds where water quantity or quality is a factor limiting fish recovery.

Subbasin Planning:

Subbasin planning for the NPCC provides a unique opportunity to collaborate in developing products that not only aid recovery planning, but also help the NPCC prioritize spending for fish restoration activities. Completed subbasin plans comprise major elements needed for a complete recovery plan. Recovery plans, however, include additional key elements, such as land and water use regulation and site-specific actions and commitments, which are not called for in subbasin plans. Table 3 shows key elements of both subbasin plans and recovery plans, and identifies common elements.

The relationship between subbasin planning and recovery planning is further described in a letter from Robert Lohn, NOAA Fisheries Regional Director, to Larry Cassidy, Northwest Power Planning Council Chair, dated May 24, 2002¹⁰. This letter includes an attachment entitled *NMFS Local Recovery Plan Guidelines*,¹¹ which provides subbasin planners with initial guidance on what elements subbasin plans must include in order to meet ESA section 4(f) legal requirements – those requirements generally fall into the key component categories listed for recovery plans in the Plan Model.

Other planning activities:

A number of other local regulation development activities are anticipated to be initiated within the same timeframe as recovery planning. Rather than view these as separate processes, opportunities exist to combine processes to gain efficiency not only in planning timeframe, but also in content and public participation.

TABLE 1 – GEOGRAPHIC TRANSLATION OF WASHINGTON PLANNING AREAS AND LISTED SPECIES

WRIAs	Subbasins	NWPPC Province	NOAA Fisheries ESUs	USFWS DPS Unit	Regional Salmon Recovery Board
1-14	Nooksack to Kennedy-Goldsborough	-	Puget Sound Chinook, Hood Canal Summer Chum	Puget Sound Bull Trout RU	Puget Sound Shared Strategy
15-18	Kitsap to Dungeness-Elwha			Coastal Bull Trout RU	
19-24	Hoko to Willapa	-	Ozette Sockeye	Coastal Bull Trout Recovery Unit	N/a
25	Grays-Elochoman	Estuary	Lower Columbia River Chinook, Columbia River Chum, Lower Columbia River Steelhead	Lower Columbia Bull Trout RU	Lower Columbia Fish Recovery Board
26-28	Cowlitz to Salmon-Washougal	Lower Columbia			
29	Wind-White	Columbia Gorge			
30	Klickitat				
37-39	Lower, Upper Yakima, Naches	Columbia Plateau	Middle Columbia River Steelhead	Middle Columbia Bull Trout RU	Yakima River Basin Salmon Recovery Board
31, 34, 36, 40-43	Rock-Glade, Palouse, Esquatzel Coulee, Alkali/Squilchuck, Lower Crab, Grand Coulee, Upper Crab		-	-	[Columbia Plateau]
32, 33, Part of 35	Walla Walla, Lower Snake, Middle Snake (Tucannon)		Snake Spring-Summer and Fall Chinook, Snake Sockeye, Snake Steelhead	Snake Bull Trout RU	Snake River Salmon Recovery Board
Part of 35	Middle Snake (Asotin)	Blue Mountain			
44-50	Moses Coulee, Wenatchee, Entiat, Chelan (no listings), Methow, Okanogan, Foster	Columbia Cascade	UC Spring Chinook, UC Steelhead	Upper Columbia Bull Trout RU	Upper Columbia Salmon Recovery Board
51-62	Nespelem to Pend Oreille	Intermountain	-	Northeast Washington Bull Trout RU	N/a

ROLE OF LOCAL RECOVERY PLANNING ORGANIZATIONS:

Every Puget Sound and Columbia Basin watershed or group of watersheds will have a chapter in an ESU-scale recovery plan, and a variety of local organizations (e.g., Lead Entities, Watershed Planning Units, Subbasin Planning groups, counties, cities, tribes) will contribute to each local chapter. If one group forms to coordinate recovery planning for the watershed, or agrees to take on that responsibility, their role can include:

- ❑ maintain an organizational structure conducive to planning;
- ❑ integrate with other planning groups within the watershed;
- ❑ develop and execute public outreach activities;
- ❑ gather and analyze information at the watershed scale;
- ❑ facilitate a process for decisionmaking and prioritization within the watershed;
- ❑ develop prioritized habitat restoration strategies and project lists for funding through state and federal programs;
- ❑ develop the habitat assessment and action priorities components for local-based recovery plans, as described in this model;
- ❑ provide a forum for coordinating with other authorities from the harvest, hatcheries and hydro sectors at the watershed scale;
- ❑ ensure connection to the appropriate regional recovery planning entity;

ROLE OF REGIONAL RECOVERY PLANNING ORGANIZATIONS:

The primary purpose of the regional recovery planning organization is to integrate effects of all programs, from local to regional to statewide scale activities, and to help connect local planning to ESA science. **A regional planning organization** has several roles:

- ❑ ensure coordination and integration between planning scales;
- ❑ ensure the recovery plan contains the necessary elements, as described in this model;
- ❑ provide a forum for coordinating with other authorities in broader habitat, harvest, hatcheries and hydro sectors;
- ❑ maintain active participation of local, state and federal agencies and tribes in the regional process at both the policy and technical levels;
- ❑ demonstrate how cross-watershed and cross-activity (e.g., Lead Entity strategies, subbasin planning, water resource planning, salmon recovery planning) coordination can enhance effectiveness and/or efficiency for individual local planning efforts;
- ❑ clearly distinguish between activities conducted at scales which participants can influence from activities which participants have little ability to influence within this recovery planning process;
- ❑ provide technical or facilitation support to local efforts and/or link local groups with experts from state, tribal or federal agencies;
- ❑ facilitate a process for integrated decision making and prioritization across

- multiple watersheds;
- ❑ collate and summarize the contents of the numerous local plans that contribute to the regional recovery plan;
- ❑ articulate how those local plans are coordinated across watersheds;
- ❑ analyze and demonstrate how the combined actions of all the contributing local or watershed plans integrate to meet the salmon recovery goals.

The regional organization does not have direct authority to implement most actions called for in a recovery plan, nor does the board have authority to obligate those with management authority. Therefore, it cannot guarantee delivery of a recovery plan with the full commitment from all responsible parties to adopt or implement the actions called for in the plan. During the planning process, the regional organization will apprise the state of any concerns regarding the participation and potential limits for development and implementation of the plan by responsible parties.

SALMON RECOVERY PLAN MODEL

The following tables list the key elements of the recovery plan process (Table 2) and key elements of a recovery plan document (Table 3). The questions posed for the recovery plan process are questions to be considered as the organization is forming and designing the planning process. Keeping in mind flexibility in planning objective and plan organization, questions appearing next to each recovery plan element can/should be considered by planners during plan development, and answered by the plan as appropriate. By reading the recovery plan document, the reader should understand how the plan addresses each (most) question(s) listed in the table.

Table 3 lists two inter-related but independent planning processes/documents, and identifies which plan elements can/should be included for each type. Some interpretation will be needed to determine the scope of the question/answer relative to the type of document being prepared - some elements may increase in scope as one moves left-to-right in the document columns.

The elements identified in this table, especially those that are indicated as elements of a recovery plan, are not meant to be one-size-fits-all. For example, if a group agrees to write about the Responsibilities and Commitments elements, listed are some of the questions they are likely to want to answer. It's possible that a planning group may choose not to answer all questions within a chosen element (for example, a group may be able to generalize the "expected social, cultural and economic outcomes from implementing the plan," but be unable to quantify the "\$ losses to affected economic sectors" portion of the "outcomes" element) or to skip an element.

Clearly, the more completely the plan addresses the elements listed in this model, the more likely it is to receive favorable science review, to be adopted by federal agencies, to be useful in working toward actual recovery, and to provide support to achieving desired federal rewards or assurances.

Throughout the plan, assumptions, unknowns and uncertainties should be identified. Likewise, it's important to explain how each action identified in the plan is risk-averse relative to fluctuations in climatic conditions, poor compliance, and other variables.

PLANNING INITIATION & PROCESS STEPS

Process Steps

Questions posed for the recovery plan process should be considered as an organization is forming and designing the planning process. Not all questions will apply to every situation. In general, however, these are the kinds of "process questions" evaluators and other critics would like to have answered as they consider the context for planning

objectives, actions, and certainty of implementation. Answers to these questions are not necessary elements to the plan – they are only intended as planning aids.

Who provides what?

It is important to identify early on who has responsibility for developing information for each element. The answers will differ from watershed to watershed and region to region, and finding those answers is an important part of organizing the planning process. This model purposely does not attempt to identify who will be responsible to develop specific parts of the plan, and how the “H” factors will be integrated.

In general, Washington Department of Fish and Wildlife, treaty Indian tribes and NOAA Fisheries can provide information needed about species life histories and status. Authority and responsibility to describe harvest, hatchery and hydro impacts and actions lie outside the typical local group, though it is assumed that those authorities involved in harvest, hatcheries and hydro will be actively participating at the local and regional scales. In general, evaluations of harvest and hatchery effects, and identification of actions will be provided by Washington Department of Fish and Wildlife, treaty Indian tribes and NOAA Fisheries. Hydro information is available through FERC licensing and/or ESA Section 7 Biological Opinions or Section 10 HCPs.

Habitat assessments are developed/available from a variety of local, state or federal sources. It is anticipated that watershed-scale habitat management strategies and specific action portfolios will be developed by local recovery planning groups, and that ESU-scale “roll-ups” will be completed by regional salmon recovery groups.

In their “Technical Guidance for Watershed Groups in Puget Sound,”² The Puget Sound Technical Recovery Team and Shared Strategy Staff Group illustrate a stepwise approach to the planning process and plan elements, and identify who will provide each element for the Puget Sound recovery plan. Though directed at Puget Sound planning, this advice is applicable statewide.

Outreach

Public support is the key to successful plan development and implementation. It is strongly recommended that public involvement be a key element throughout plan development, and that a specific outreach and communication strategy be developed, articulated and implemented early in the planning process. An outreach strategy should include how to communicate the goals of this plan, as well as providing advice for how people can get involved with the planning and recovery process, and identifying ways to communicate about the progress of the plan and decisions being made along the way.

DRAFT TABLE 2 – SUMMARY OF PLANNING PROCESS ELEMENTS

PLANNING PROCESS ELEMENT	KEY PLANNING PROCESS QUESTIONS How are we developing our planning process?
Board organization, bylaws, mission	<ul style="list-style-type: none"> ➤ What is the purpose of our organization? ➤ What outcome do we expect from this process? ➤ Who should participate? ➤ Who leads? ➤ What is the infrastructure of our organization? What are our committees and how do committees interrelate? ➤ What are the roles and responsibilities of entities participating in the process? ➤ What authorities, if any, does this organization have? ➤ What are the forces that support or limit our success?
Ensure participation: Key local gov't & citizen stakeholders, State, federal, tribal participation;	<ul style="list-style-type: none"> ➤ How does our organization ensure participation by key authorities and stakeholders? Is everyone at the table who has a stake/authority to implement the plan? ➤ What will be our strategy for getting all key stakeholders at the table? ➤ What segments of the community and stakeholder groups were or need to be involved in developing our strategy? ➤ Provide a roster of participants
Coordinator appointed/hired	<ul style="list-style-type: none"> ➤ Who will keep our organization and product on-track?
Draft/Final Work Program, schedule & budget	<ul style="list-style-type: none"> ➤ What are we going to accomplish? ➤ What is the timeline, including key milestones? ➤ How much will it cost to do?
Plan Outline/TOC	<ul style="list-style-type: none"> ➤ What key responsibilities and issues can only be addressed through a Recovery Plan yet not through a Sub-basin Plan or Lead Entity Strategy? ➤ What will be included in the plan?
Plan Promotion / Outreach	<ul style="list-style-type: none"> ➤ How does our organization generate interest and support from the general public? ➤ How will the general public and interest groups be involved in plan development? ➤ What are next steps for involvement and implementation?
Commitments for technical contributions; Hiring necessary consultants	<ul style="list-style-type: none"> ➤ Do we have commitments from agencies from which we need information or analyses? ➤ Do we need more help collating information, analyzing, and/or writing the plan?
Cultivate relationships with land owners and project sponsors	<ul style="list-style-type: none"> ➤ How will we identify, foster and encourage project sponsors to participate in implementing the strategy?
Resolution of Issues in Final Plan	<ul style="list-style-type: none"> ➤ What is the process to identify and resolve state, federal, local (and potentially NPCC) issues in a submitted recovery plan? ➤ What ESA assurances can be granted, based on implementation measures and commitments within the submitted plan [federal responsibility, with state coordination]?

DRAFT TABLE 3 – SUMMARY OF PLAN ELEMENTS

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
INTRODUCTION	What information is necessary to set the stage for our plan?		
Executive Summary	<ul style="list-style-type: none"> ➤ What is the problem or opportunity our process is addressing? ➤ What is the goal of the plan? ➤ What is the scope of the plan? ➤ What were the major findings, conclusions, actions and commitments? 	X	X
Introduction	<ul style="list-style-type: none"> ➤ What is the problem or opportunity (current condition)? ➤ What is our desired outcome? ➤ Describe the gap between our goal and the current condition? ➤ What is the history of our planning entity? ➤ What is the infrastructure of our organization? ➤ Who participated in planning? ➤ What is the overall philosophical approach we applied to solve the problem? ➤ What is the procedural approach for conducting the planning activity? 	X	X
ASSESSMENTS	What are the current conditions (status and relationships) of the populations and environments?		
Key or Focal Species & Habitats/Geography	<ul style="list-style-type: none"> ➤ What are our high priority stocks (“focal species”), geographical areas, and actions? ➤ What process and criteria did we use to choose them? 	X	X
Fish Population Identification, Life History and Assessment/Status	<ul style="list-style-type: none"> ➤ What were the historical populations? ➤ What are the current abundance, productivity/growth rate, diversity and spatial structure (i.e. Viable Salmon Population, or VSP, parameters) of each population? ➤ How do they compare with the historical characteristics of the population? 	X	X
Habitat Overview / Environmental Conditions	<ul style="list-style-type: none"> ➤ Overview of geography/spatial layout; ➤ What are the current and habitat conditions affecting the focal species? ➤ What habitats are used at which life stages? 	X	X
Ecological Relationships	<ul style="list-style-type: none"> ➤ What other fish and wildlife interact with the focal species? 	X	X
FACTORS SUPPORTING CURRENT POPULATIONS, CAUSING DECLINE OR LIMITING RECOVERY; THREATS TO VIABILITY	<ul style="list-style-type: none"> ➤ What are the key factors supporting existing populations ? ➤ What are the key factors that caused the decline? ➤ What are the current trends of the effects of those factors? ➤ What factors continue to threaten the viability of populations? ➤ What are the key unknowns or uncertainties? 		
Policy/Social/Economic Factors for Decline	<ul style="list-style-type: none"> ➤ What historical policies and social, behavioral and cultural factors contributed to the decline of salmonids in this region? 	X	X

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
Inventory Existing Activities, Projects, Programs by Watershed / Jurisdiction	<ul style="list-style-type: none"> ➤ What management programs (regulations, contracts, agreements) are currently in place and how do they support or threaten the viability of wild salmonid populations? ➤ What Habitat Conservation Plans (HCPs) under Section 10 ESA, Section 7 consultations, FERC licenses and other long-term agreements support or threaten the viability of wild salmonid populations? ➤ Address appropriate (watershed or regional/ESU) scale ➤ How do existing policies, programs, commitments and regulations affect our overall salmon recovery philosophy/strategy? 	X	X
Mortality outside the watershed/ESU: Columbia Basin "Out-of-Subbasin" Impacts & Assumptions	<ul style="list-style-type: none"> ➤ [It is anticipated that collaborative, federal-led efforts will be conducted to identify common assumptions for "non-local" effects. Those values will be provided to local planning groups, who may choose to use, or not to use, the collaborative results. In any case, the local group is expected to answer the following questions about their OOS assumptions] ➤ What are your assumptions concerning ocean conditions, climate, harvest mortality and other factors that occur outside the watershed or ESU? ➤ For the purposes of isolating strategies within the subbasin, what is the total mortality (survival) outside of the subbasin (provide source for estimate used)? ➤ [Additionally, TRTs are anticipated to contribute information on the sources, locations and amount of mortality (survival) for each life stage.] 	X	X
Factors for Decline or Limiting Recovery; Threats to Viability: habitat, harvest, hatchery	<ul style="list-style-type: none"> ➤ What have been/are the key habitat characteristics and processes that most affect (support or threaten) the viability (abundance, productivity, diversity, spatial structure) of each wild fish population? ➤ How has/do current artificial production programs and facilities affect the viability of wild fish? ➤ Which other fish or wildlife species directly or indirectly affect the ability of the species to thrive? How? ➤ How has/does harvest management affect the viability of wild fish? ➤ What has been/are the effects of hydro dams or other major projects on the viability of wild fish? ➤ How do the cumulative benefits and impacts associated with Habitat Conservation Plans (HCPs) under Section 10 ESA, Section 7 consultations, FERC licenses and other long-term agreements support or threaten the viability of wild salmonid populations? ➤ How will changes in one "H" factor affect the other "H" factors? 	X	X
Integrated Assessment & Working Hypothesis	<ul style="list-style-type: none"> ➤ What are the plausible hypotheses for how habitat management actions can affect the viability characteristics of the population? ➤ How do the factors for decline interact – what are the most important factors? ➤ What are the key unknowns or uncertainties? 	X	X

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
DESIRED FUTURE CONDITION – RECOVERY GOALS			
Plan Goals/ Vision for Watershed/Subbasin/Province/Region: Desired Future Conditions	<ul style="list-style-type: none"> ➤ What is the strategy/plan vision; how does it reflect local [Subbasin/Watershed/Provincial/Regional] policies, legal requirements and local conditions, values and priorities? ➤ What are our vision and short and long-term goals for our watershed in relation to salmon habitat recovery? What is the gap between current and desired conditions? ➤ What is the desired future condition in terms of biological population goals as well as other ecological, social, economic and cultural interests of the region? ➤ What is our definition of recovery and how does it relate to the State and Federal definitions? 	X	X
Biological Objectives – Recovery Goals	<ul style="list-style-type: none"> ➤ What are the viability criteria, in terms of abundance, productivity, spatial distribution and genetic diversity? ➤ What are your population planning targets? ➤ What is the relationship between population-scale goals and goals for the entire ESU/DPS? ➤ What is the expected time frame for meeting the goals? ➤ What are key considerations in measuring achievement of the goals? 	X	X
De-listing Criteria for Listed Species	<ul style="list-style-type: none"> ➤ How do our planning targets satisfy or contribute to achieving ESU Criteria? ➤ What additional policy criteria provide certainty of implementation and efficacy of identified actions? ➤ What are the additional biological and policy criteria for de-listing? [to be provided by Federal agency] 		X
MANAGEMENT STRATEGY	<ul style="list-style-type: none"> ➤ What are the kinds of actions needing to be done in order to [meet subbasin planning goal] and/or [recover populations]? ➤ Provide a relative sense of what level of effort is needed, and the general costs. 		
Strategies to Achieve Biological Objectives- Opportunities & Priorities	<ul style="list-style-type: none"> ➤ What are our strategies to achieve our desired future condition? What are the opportunities & priorities? ➤ I.e. What is our conceptual approach (strategy) for habitat protection and restoration in this watershed? ➤ What method(s)/criteria/principles were used to prioritize among strategies? ➤ What trade-offs were made (between science and socio-economic considerations) in choosing strategies? ➤ What are the social, economic forces and scientific knowledge that limit or support our vision and goals? ➤ How will we address limiting forces and strengthen supportive forces, where needed? ➤ How will we address and integrate socio-economic and scientific factors? ➤ How is the management plan consistent with ESA/CWA, local GMA/SMA, and other relevant laws and plans? ➤ [Refer to Technical Guidance for Subbasin Planners] 	X	X

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
ACTION PLAN	<ul style="list-style-type: none"> ➤ What are the specific set of actions that [need to be done] and/or [we commit to implement] in order to protect and recover populations? <p>[Plans will vary in scale or breadth, and in levels of detail (depth).]</p> <ul style="list-style-type: none"> ➤ Generic questions: ➤ Have all major threats identified in the assessments been addressed through actions in this plan? ➤ Why was each set of actions chosen? ➤ What are the linkages among different sets of actions occurring in salmon recovery? ➤ How does each set of actions target the causes for decline as well as symptoms of decline? ➤ What are the individual and cumulative benefits to fish from this action plan? ➤ What are the costs for each set of actions? ➤ Who is responsible to implement each set of actions? 		
Programmatic Actions & Effects	<ul style="list-style-type: none"> ➤ What regulations or other means have been/will be employed to preserve and improve the base level of protection? ➤ How do these protective actions interact with actions in hatcheries and harvest? ➤ Should/How can HCPs, Section 7 consultations, FERC agreements and other long-term agreements be adapted/improved to better meet the plan goals? ➤ [Examples of programs with potential to preserve base levels of protection and/or minimize & mitigate for take include: Growth Management Act (GMA), Shorelines Management Act (SMA), the Forests and Fish agreement, Federal Energy Regulatory Commission (FERC) licensing actions, water resource management planning pursuant to the 1998 Watershed Management Act (ESHB 2514), Lead Entity restoration strategies pursuant to the 1998 Salmon Recovery Planning Act (ESHB 2496), subbasin planning for the NPCC, programs for compliance with the Clean Water Act (CWA), and broad or local Habitat Conservation Plans (HCPs) such as the Forests and Fish Initiative.] 		X
Site-Specific Habitat Protection & Restoration Actions & Effects	<ul style="list-style-type: none"> ➤ What specific actions (recovery plan) or kinds of actions (strategy/subbasin plan) need to be done in order to protect and recover populations? ➤ How does each proposed action/project target the causes for decline as well as symptoms of decline? ➤ Have all major habitat threats identified in the assessments been addressed through actions/projects in this plan/strategy? ➤ How do these actions affect hatcheries, harvest and/or hydro? ➤ How is the success of the action affected by hatcheries, harvest and/or hydro? ➤ What is the predicted biological result (quantitative or qualitative benefit) to population(s) of each action/project? ➤ How will the effectiveness of each action be measured? ➤ What is the likely \$ cost for each action/project? ➤ What other considerations other than financial affected our selection of action/project to implement? 		X

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
Artificial Production Actions & Effects	<ul style="list-style-type: none"> ➤ What changes, if any, to hatchery programs and facilities are necessary to support recovery? ➤ How will those changes affect harvest and habitat? ➤ How will the effectiveness of the action be measured? ➤ How can hatchery supplementation programs support or threaten recovery? ➤ How can/does mass marking support or threaten recovery? 		X
Harvest Actions & Effects	<ul style="list-style-type: none"> ➤ What further changes, if any, must occur in management of harvest to contribute to recovery? ➤ How will those harvest changes influence hatcheries and habitat? ➤ How will the effectiveness of harvest actions be measured? 		X
Hydro Actions & Effects	<ul style="list-style-type: none"> ➤ How can HCPs, Section 7 consultations, FERC licenses, and other long-term agreements, be adapted/improved to better meet the plan goals? 		X
Education Actions	<ul style="list-style-type: none"> ➤ What new education initiatives and/or volunteer opportunities can contribute to recovery and maintenance of healthy salmonid populations? ➤ How will the effectiveness of education actions be measured? 		X
Enforcement Actions	<ul style="list-style-type: none"> ➤ What laws need better enforcement? ➤ How can that better enforcement be provided? ➤ What motivational programs can be initiated to increase compliance with laws? ➤ How will the effectiveness of the proposed changes be measured? 		X
Integrated Action Options	<ul style="list-style-type: none"> ➤ Note: This set of questions is seeking to discover which independent actions are most important for protection and/or recovery of our focal species. Anticipated outcomes and costs are evaluated for each action. ➤ What process and criteria were used to prioritize among actions within and across "H" sectors? ➤ What are the individual (action-specific) benefits to fish from each action? ➤ What specific actions are necessary (critical) to protect and recover populations? ➤ How does each action target the causes for decline as well as symptoms of decline? ➤ What are the projected costs for each action? 		X

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
Action Scenarios / Portfolios	<ul style="list-style-type: none"> ➤ Note: Once the range of key actions is identified, it is anticipated that more than one all-H recovery scenario (portfolio) will be developed, and that only one of those portfolio options will be chosen for implementation. This set of questions is seeking to discover which actions are grouped into a portfolio and why, as well as to quantify the likely outcome and \$ cost for each portfolio. Following are the types of questions that can be useful in developing this section: ➤ What are our portfolio options? On what basis are sets of actions grouped into portfolios? How does each portfolio option address objectives outlined in the management strategy? ➤ What are the linkages among actions from different forums (Lead Entity strategy, 2514 watershed planning, RFEGs, GMA, SMA, mitigation, recovery planning, subbasin planning, etc.) that affect salmon recovery? ➤ How do benefits from each portfolio option add up across populations, watersheds and risk factors? (Integration of the H's) ➤ Which portfolio is selected for implementation? ➤ What are the projected costs for our selected portfolio? ➤ Who is responsible to implement each action in our selected portfolio? ➤ What is the proposed sequence of actions and what are the milestones to measure progress as we implement our selected portfolio? 		X
PLAN IMPLEMENTATION			
Identification of Uncertainties & Information Gaps - Research Plan	<ul style="list-style-type: none"> ➤ What are the key unknowns or uncertainties? ➤ What are the key information gaps? ➤ What is the plan to fill those gaps? 	X	X
Monitoring & Evaluation/ Adaptive Mgt. Plan	<ul style="list-style-type: none"> ➤ How will we measure the progress and success of our plan? ➤ What types of monitoring will occur (and what metrics employed) to measure effectiveness of the recovery plan? ➤ How will we use monitoring results to adapt the plan? ➤ How is this monitoring plan consistent with the statewide monitoring program? ➤ What steps are we taking to ensure that adaptive management continues to occur at appropriate scales? (Include the strategy for integrated decisionmaking across the H's.) 	X	X
Education, Outreach:	<ul style="list-style-type: none"> ➤ How will the plan be marketed? ➤ How will support for implementation be generated? ➤ How will willing implementers be recruited? ➤ [Actions, activities and programs identified in the plan may require separate processes to address ESA compliance (e.g., HCP, Section 7 or Section 4(d) development and approval) or public participation (e.g., formal rulemaking; ordinance proposal and adoption, SEPA/NEPA) beyond the outreach processes associated with plan development.] 		X

PLAN ELEMENT	KEY PLANNING QUESTIONS	NPCC SUB-BASIN PLAN	RECOVERY PLAN
Funding Strategy & Options	<ul style="list-style-type: none"> ➤ How might actions be funded? ➤ What is the overall strategy to ensure actions identified in our plan will be funded? ➤ What funding sources other than the [SRFB] [NPCC] [private foundations] can we leverage in order to implement the strategy? ➤ Describe funding stages, if appropriate. 		X
Economic, social and cultural outcomes	<ul style="list-style-type: none"> ➤ What are the expected social, cultural and economic outcomes from implementing the plan? ➤ What would the \$ losses to affected economic sectors be from implementing the plan? [Not required for recovery plan; is required for SEPA/NEPA.] 	X	X
Implementation Schedule & Responsibilities	<ul style="list-style-type: none"> ➤ Who is [responsible for] [committed to implement] which actions? ➤ What is the proposed sequence of actions and what are the miles tones to measure progress? ➤ Is there a particular order for projects to be funded that maximizes benefits? ➤ [Implementation milestones can be included here, in a separate section, or integrated with action identification or monitoring] 	X	X
Commitments & Approval / Adoption	<ul style="list-style-type: none"> ➤ What is the commitment level for each action? (Approval indicates a good-faith commitment to implement actions as described in the plan.) ➤ [Actions, activities and programs identified in the plan may require separate processes to address ESA compliance (e.g., HCP, Section 7 or Section 4(d) development and approval) or public participation (e.g., formal rulemaking; ordinance proposal and adoption, SEPA/NEPA) beyond the outreach processes associated with plan development.] 		X
Technical Appendices / References	<ul style="list-style-type: none"> ➤ What analysis tools and data sources were employed, and why were those tools/sources chosen? ➤ Maps, bibliography/ references, documentation of steps, assumptions & analyses. 	X	X

PLAN INTRODUCTION

Executive Summary:

An executive summary includes an overview of the problem, the goal of the plan (e.g., to meet the numeric regional fish recovery goal), the scope of the plan (geography, species, etc.) and a synopsis of major findings, conclusions, actions and commitments. The executive summary should provide a brief yet complete overview of the document so that it can be distributed independent of the entire plan document.

Introductory Section (“Introduction”, “Forward”, “Overview”):

First, provide a brief history of the planning entity - its infrastructure, participants, and overall approach for conducting the planning activity. The introduction also includes a background of the problem(s) addressed by the plan. Discussion of existing laws, orders and agreements that may affect recommendations or the implementation of actions can appear in the introduction or factors for decline sections.

A plan must contain a clearly articulated goal and/or desired future condition/outcome if the plan is executed as written (for example, *“recover fish populations to healthy, harvestable levels and improve habitats on which fish rely”*⁹). Plans may be enhanced by a discussion of social, cultural and economic goals that provide a context for fish recovery actions: For example, if the region’s goal is to recover fish AND maintain economic viability, then say so.

Plan goals developed for the Northwest Power Planning Council (NPCC) subbasin planning program are broader than those developed for ESA purposes - subbasin plans not only address listed anadromous stocks, but also include goals for restoration and/or protection of non-listed anadromous stocks, resident fish and wildlife.

Many planners hope their recovery plans can be adopted by NOAA Fisheries and/or USFWS to meet requirements under section 4(f) ESA. That goal, or goals for subsequent ESA take authorization under sections 4(d), 6, 7, or 10, should also be clearly stated.

ASSESSMENT

Population Identification & Assessment

This section includes life history characteristics such as spawner and abundance trends, productivity, intra- and inter-population diversity, and spatial distribution within the watershed and between watersheds; population structure; population status and extinction risk. In this section, the key, or focus, species for the plan will be identified.

Habitat Status & Assessment Of Ecological Processes

The habitat assessment includes investigation of water quality (including point source and non-point source pollution) and quantity issues (primarily instream flow for fish) as well as impacts of physical changes to habitat structure (temperature, sedimentation, etc.) and function. This section also includes characterizations of critical habitat needs at all life stages, including key intra- and inter-species interactions, environment/species relationships, and special habitat needs.

Assessment methodologies are identified, and strengths and limitations of, or impediments to, the various techniques presented, as well as comments regarding data completeness and quality. Data gaps in all areas should be noted.

The scope of habitat assessment for a regional document includes estuarine, nearshore, marine and freshwater habitats. Many documents, including the Puget Sound TRT Assessment Guidance and GSRO assessment guidance^{12 13}, provide assistance in determining what questions must be answered in order for the assessment to be complete.

It must be acknowledged that many assessments will not be as complete as is desired. In this initial round of planning, it's important to be as specific as possible given any limitations in the assessment, and to carefully identify not only the gaps in the assessment but also the research that will be needed to fill those gaps.

There are a number of additional guidance documents available that provide information on format and topics to be considered in an assessment as well as criteria on which the adequacy of assessments will be evaluated.

FACTORS SUPPORTING CURRENT POPULATIONS, CAUSING DECLINE OR LIMITING RECOVERY; THREATS TO VIABILITY

Most Pacific Northwest ESUs were listed due to a combination of all five ESA listing factors¹⁴:

- ☐ present or threatened destruction, modification or curtailment of habitat or its range;
- ☐ overutilization
- ☐ disease or predation
- ☐ inadequacy of existing regulatory mechanisms
- ☐ other natural or manmade factors.

This section constitutes a synthesis of the impacts of harvest, hatchery, habitat and hydropower (all "H") risk factors. It discusses the status of the fish resource and watershed relative to recovery goals, and addresses effects of the Clean Water Act (CWA), Growth Management Act (GMA) and the Shorelines Management Act (SMA).

Policy/Social/Economic Factors for Decline

Historical political or cultural influences and/or socioeconomic forces may figure prominently when evaluating factors for decline. Without belaboring the past, it's important to have this historical context to support or contrast with current political, cultural, social, or economic goals in the recovery plan.

Inventory of Existing Activities, Projects, Programs by Watershed / Jurisdiction:

An inventory and assessment of the effectiveness of current and ongoing projects, activities and regulations is important in assessing cumulative effects from plan actions, and in developing a working hypothesis. It is anticipated that local governments, tribes, individuals, and state and federal agencies will provide information on land management and other issues and actions for which they have authority. Tribes,

WDFW, NOAA Fisheries and USFWS (the agencies with authority over harvest and hatcheries) will provide information to fulfill the hatchery and harvest sections. The role of the planning organization will be to integrate the expected results of these actions with the results of actions in other sectors to demonstrate how, together, they represent a strategic solution to the stated plan goal.

For example, state and federal agencies maintain programs that address such issues as: oil spill prevention and response, forest practices, agricultural practices (e.g., CREP), Hydraulic Project Approvals, Army Corps of Engineers "404" permits and other CWA programs and permits, contaminated sediments, control of invasive non-native species, transportation plans, roads maintenance, ferry terminal plans, and habitat protection on government-owned (state, tribal, federal) lands. These programs, though not directed at salmon recovery, can significantly benefit or threaten salmon recovery progress. Local actions implementing these programs should be included in this inventory.

Mortality Outside the Watershed/ESU/Plan Area:

It is desirable that planners use a consistent set of assumptions regarding the many natural and human-caused influences on salmon survival that occur outside the plan area. Included should be assumptions about natural and climatic variability, survival through hydropower systems, ocean and "pre-terminal" (e.g., Columbia River mainstem, Strait of Juan de Fuca, West Coast of Vancouver Island) fishing mortality, and estuarine survival. To facilitate this consistency, collaborative efforts are underway to develop a set of products (estimates of salmon survival from the time they leave their natal subbasin to their return) to be made available to local recovery planners. However, as is the case with other elements of recovery planning, it is up to local groups to decide how or if to use the jointly-developed product. The only requirement would be that the procedures and assumptions employed by local planners to assess "non-local" effects be well documented.

Habitat Factors:

Descriptions of habitat factors contributing to decline and/or limiting recovery must include an evaluation of the effects of the historic progression of habitat changes on the abundance, productivity, diversity and spatial distribution of wild fish. This section includes an evaluation of existing local management and regulatory programs (restoration, harvest, land and water use, water quality), their strengths and/or inadequacies in either design or implementation, and the ability of the programs to fix the limiting factors. Restoration programs and regulatory programs must be examined together – the benefit of restoration programs can only be measured within the context of the future condition of the affected habitat. The habitat section should distinguish between environmental (non-human-caused) variables and human-caused factors in order to distinguish between the habitat changes that can be influenced and those that cannot.

Hydropower, Dams, and other Major Projects Factors:

Impacts from hydropower projects and other major dams can be discussed separately, or incorporated into the general habitat discussion, as appropriate. Clearly, where hydro projects are major limiting factors, a separate section is warranted. It is not necessary, however, to re-create information already provided in existing documents - those documents are best incorporated by reference.

Hatcheries Factors:

A discussion of hatchery factors includes an assessment of the genetic (interbreeding and domestication) and ecological (predation, competition and disease-transmission) impacts to wild fish caused by interactions with hatchery fish. An evaluation of the effects of the hatchery facility (e.g., fish migration barriers, water supply, intake screens, pollution) on wild fish must also be included. Hatchery and Genetic Management Plans (HGMP) or Section 10 permits will be developed for all hatchery programs in Washington that affect listed fish. If an HGMP is available, and/or the specific programs have been the subject of review by the Hatchery Science Review Group or Artificial Production Advisory Committee, those results should be summarized and/or referenced as sources.

In Puget Sound and Coastal Washington, the Hatchery Reform Initiative is providing information to planners on the evaluation of western Washington (non-Columbia Basin) hatchery programs and facilities. The Hatchery Science Review Group is working through the region, basin by basin, and will provide recommendations for hatchery programs in all basins by the end of 2004*.

In the Columbia Basin, NOAA Fisheries has initiated a multi-party collaborative process to develop updated HGMPs for all artificial production programs throughout the Basin. Their process has been developed to implement Action 169 of *Reasonable and Prudent Alternatives* identified in the NMFS December 2000 Biological Opinion (Bi-op) on the Federal Columbia River Power System (FCRPS). This HGMP effort overlaps with a number of concurrent and interrelated processes underway in the basin, and it is important to maintain linkages among all recovery-related efforts. Indeed, NOAA Fisheries and NPCC are engaged in significant coordination between NPCC hatchery reform activities, subbasin planning and HGMP development¹⁵.

It is anticipated that the NPCC will be providing information to subbasin planning groups on the evaluation of hatcheries in the basin. Specifically, the evaluation process will address 1) whether the program matches the stated purpose; 2) whether the program is consistent with legal, policy and scientific criteria; 3) operational costs, production, and adult return information; 4) recommended interim changes; and 5) preliminary budget/costs to implement interim changes and possible future costs.

* See the Long Live the Kings web site for more information on Hatchery Reform: www.lltk.org

Harvest Factors:

A description of harvest factors includes an analysis of directed and incidental fishing impacts to this (these) population(s) over time. It also addresses the overall trend in exploitation for each population, and examines the success of previous and current management plans at achieving population objectives.

It may also be important to examine the effects of harvest strategies on the size structure of the population, age at return, fecundity and run timing.

Much of this information for salmon species has been developed by state and federal agencies and tribes in the contexts of the Pacific Salmon Treaty and annual salmon fisheries management planning. Further, a state/tribal comprehensive chinook harvest management plan for Puget Sound populations has been adopted under ESA Section 4(d)¹⁶, and is implemented through the annual Pacific Fisheries Management Council “North of Cape Falcon” management process. WDFW, tribes and NOAA Fisheries annually review the performance of the plan and assumptions on which the plan is based, and a longer-term plan is under development. Harvest within the Columbia Basin is managed in accordance with the U.S. v. Oregon lawsuit and associated state, tribal and federal management plans adopted thereunder. Mainstem fishery regulations are promulgated through annual and inseason meetings of the Columbia River Compact.

Ecological Interactions:

In some cases, the presence of one naturally-producing (native or non-native) species inhibits the ability of a species of concern to persist and recover, either through competition, predation or hybridization. These effects should be evaluated for relative importance to the focal species.

Integrated Assessment and Working Hypothesis:

Our ultimate objective in conducting an assessment of habitat and populations is to determine which limiting factors most affect recovery of the population. From these conclusions, hypotheses can be developed for how best to recover the fish, and, using those hypotheses, strategies and actions can be identified. Ecosystem Diagnosis and Treatment (EDT) is one analytical tool available to help prioritize among limiting factors and stream reaches to determine which are most important.

DESIRED FUTURE CONDITION - RECOVERY GOALS

Biological recovery goals and/or ESA de-listing criteria are key components of a recovery plan. Specific goals are identified for individual populations as well as for the ESU/DPS as a whole, and may include population-based measurements as well as habitat, ecosystem, and administrative criteria that must be met. Generally, the federal Technical Recovery Teams working with local, state and tribal biologists as well as the recovery plan decisionmakers, will be responsible for developing the planning targets, recovery goals and de-listing criteria. This process and its outcomes will differ among

the regions. Timing of goal development may be problematic given limited technical capacity, however goals must be articulated in the plan along with the actions to achieve those goals.

In review of recovery plans, the federal services will also be evaluating whether the identified strategies and actions adequately reduce or eliminate the factors for decline. The package of biological (or viability criteria) and factors for decline criteria, together, comprise the minimum set of biological improvements needed for delisting. Federal agencies must also evaluate the adequacies of existing regulatory mechanisms, and the certainty of implementation and efficacy of identified actions, when making delisting decisions.

For subbasin planning, a vision describes the desired future condition in terms of a common goal for the subbasin. The vision is qualitative and reflects the policies, legal requirements and local conditions, values and priorities, consistent with the vision for the Columbia Basin described in the NPCC Fish and Wildlife Program. Biological objectives are also needed to serve as a benchmark to evaluate progress toward the subbasin vision. Biological objectives for subbasin planning describe and quantify the degree to which the limiting factors can be improved, as well as the changes in biological performance of population that will result from the actions taken to address limiting factors.

Performance measures and interim goals must be built into the plan to accurately gauge the effectiveness of prescribed actions - these would typically be presented in a monitoring and evaluation section. Monitoring elements should include measures of environmental health, fish population performance, and administrative accountability.

The development of and decisions about ESU-wide population scenarios provide a good opportunity for policy input from subbasin and recovery planners.

MANAGEMENT STRATEGIES & PRIORITIES

Strategies are sets or categories of actions that are expected to accomplish the biological objectives. Strategies are not projects or “site-specific actions,” but instead are the guidance for identification and development of actions and projects. The focus of the subbasin planning process, for example, is the identification and prioritization of strategies that can direct development of projects for funding through the Columbia Basin Fish and Wildlife Program. The NPCC *Technical Guide for Subbasin Planners* outlines how strategies should be developed, and what questions they should address.

ACTIONS TO ACHIEVE GOALS

The objective of this section is ultimately to answer the question:

What are the specific sets of actions that [need to be done] and/or [we commit to implement] in order to protect and recover populations?

A plan intended to satisfy section 4(f) ESA requires that specific corrective actions be identified in the areas of habitat, hydro, harvest and hatcheries that complement each other to achieve plan goals. “Local” actions should be considered independent from, but in context with, the many larger-scale actions and programs underway. When the reader has completed this section, he/she should understand, for each category of action:

- ❑ Have all major threats identified in the assessments been addressed through actions in this plan?
- ❑ Why was each set of actions chosen?
- ❑ What are the linkages among different sets of actions occurring in salmon recovery?
- ❑ How does each set of actions target the causes for decline as well as symptoms of decline?
- ❑ What are the individual and cumulative benefits to fish from this action plan?
- ❑ How will actions within the plan be sequenced? What is the overall implementation time frame?
- ❑ What are the costs for each action or set of actions?
- ❑ Who is responsible to implement each action or set of actions?

It is important to identify a variety of action alternatives, their costs and expected effectiveness, and to clearly state why each particular action or action portfolio was chosen. For example, the chosen option may be the one likely to achieve the highest habitat/species benefits. Alternatively, the option might have been chosen not on its purely scientific merits, but because the merits are good and economic, social and/or political costs are lower than with the first alternative. Clearly, demonstrating that options were considered - and why this particular option was chosen - is critical in gaining and maintaining public support for the plan.

Planners will want to generate cost estimates in an iterative fashion. For the initial round of evaluation of alternatives, perhaps only general or “ballpark” figures are needed. Cost figures should be refined as the planning group moves closer to a final product. The final plan must include the costs to implement plan provisions.

If there are conflicting perspectives, or an inability to commit to actions at the time the plan is written, these challenges should be documented in the plan. This section should also describe how the proposed actions are consistent with requirements of the ESA. For each “H” risk factor (habitat, hydro, harvest and hatchery), the plan must describe the relationship of the planning area to the population of interest and to the ESU/DPS as a whole. Descriptions of regulations and formal policies (e.g., CWA, land use, harvest, hatchery practices) that preserve or improve base level protections for wild fish will need to be provided or cited for each governmental jurisdiction within the planning area (see references to “inventory”).

All actions, in combination, need to be assessed for their effectiveness at achieving the recovery goals and addressing the factors for decline. Planners will first want to

evaluate whether the actions already identified will achieve the goals and address factors for decline. If those are not sufficient, new actions or groups of actions need to be identified and evaluated. The relationship between the available data, the assumptions used, the analyses, and the decisions made about actions should be transparent. Quantitative tools such as EDT are available to assist planners with this step of the planning process.

State And Federal Regulatory and Programmatic Actions:

State and federal agencies maintain programs that address such issues as: oil spill prevention and response, forest practices, agricultural practices (e.g., CREP), Hydraulic Project Approvals, Army Corps of Engineers "404" permits and other CWA programs and permits, contaminated sediments, control of invasive non-native species, transportation plans, roads maintenance, ferry terminal plans, and habitat protection on government-owned (state, tribal, federal) lands. Local actions implementing these programs should be included in the plan, and placed in context with the broad scale of these programmatic elements. In most cases, local and regional plans can incorporate specific provisions of these programs by reference.

Hatcheries / Artificial Production Actions - "Hatchery Reform":

Topics should include opportunities for supplementation and reintroduction of species of concern and the expected outcomes of those measures in terms of meeting recovery goals; facility upgrades and fish barrier removal, and funding priorities for those projects; and changes in production programs to mitigate predation, competition, and interbreeding impacts to wild fish. Activities and products such as Benefit-Risk Assessment Procedure (BRAP), Hatchery and Genetic Management Plans (HGMPs) and ESA section 6 agreements and section 7 and 10 take permits contribute significantly to describing actions in this category and must be analyzed in the context of their contribution to achieving the stated goals (as opposed to the context of minimizing "take").

Presence of a current HGMP, HCP, 4(d) plan or other long-term management/action plan should not inhibit recovery planning groups from discussing and recommending additional actions or new hatchery program objectives in order to implement the overall watershed approach. Final decisions on any changes to program objectives remain the responsibility of state and tribal co-managers.

Harvest Actions:

Topics should include description of current management, geographic distribution of fishery-related mortality, strengths and limitations of harvest impact assessment techniques, changes in management actions, expected results, compliance and enforcement. Activities and products such as comprehensive species management plans, Fishery Evaluation and Management Plans (FMEPs) and ESA section 7 and 10 take permits contribute significantly to describing actions in this category and must be analyzed in the context of their contribution to achieving the stated goals (as opposed to the context of minimizing "take").

As with hatchery HGMPs, permits and other long-term plans, the presence of FMEPs and other ESA coverage mechanisms should not inhibit a recovery planning group from discussing and recommending further changes to harvest in the context of evolving objectives. Final decisions on any changes to program objectives remain the responsibility of state and tribal co-managers.

Habitat Actions:

Topics should include sources and magnitude of non-harvest mortality in watersheds and marine/nearshore areas. Activities and products such as CWA compliance measures, GMA critical areas ordinances and other land use plans, SMA master programs, and other local government regulations and activities contribute significantly to identifying actions under this section and must be analyzed in the context of their contribution to achieving the stated goals (as opposed to the context of the original regulatory intent). Restoration and mitigation actions identified under this section will be site- and/or project-specific, where appropriate, or will describe the affected geography.

Actions should be identified in estuarine, nearshore, marine and freshwater areas as appropriate. Linkages should be made between past/ongoing activities, identified in the Inventory of Existing Activities, and anticipated future activities in order to demonstrate the potential cumulative benefits of the plan.

Hydropower Actions:

Topics include sources and magnitude of non-harvest mortality attributable to hydro/dams at each life stage. Activities and products such as HCPs, Federal Energy Regulatory Commission (FERC) license provisions and Bi-Ops contribute significantly to identifying actions under this section and must be analyzed in the context of their contribution to achieving the stated goals (as opposed to the context the original regulatory intent). Mitigation actions recommended under this section will be site- and/or project-specific, where appropriate, or will describe the affected geography. An inventory of licensing and other review timeframes would be helpful in identifying the timing of any expected future mitigation. Again, final decisions on changes to existing long-term licenses and agreements remain the responsibility of the regulating authority., and the likelihood of those changes being implemented should be carefully weighed.

Education Actions:

Actions designed to modify human behaviors that adversely affect fish should be considered during plan development. Education activities can be cost effective ways to ensure public support is maintained for fish recovery over the long term. The plan should consider education programs for students as well as adults. Many such programs are already developed and available for local implementation. Projects such as Naturemapping, Regional Fishery Enhancement Groups, Lead Entity project opportunities, Stream Team and others are all good ways to get people involved, learning, and caring about the salmon resource and how it can be conserved.

Enforcement Actions:

In some cases, protective regulations are already in place, but lack adequate enforcement and are, thus, ineffective. Enhancing enforcement may be necessary, and the plan should identify, either with actions for the pertinent “H” factor or in a separate section, specific state, local, federal and tribal agency commitments to increase regional enforcement or otherwise help enforcement efforts be more effective. One example of an effective enforcement program is the Cooperative Compliance Program initiated between regulatory agencies and irrigators in the Walla Walla watershed. In this program, irrigators learn proper techniques to screen their irrigation intakes to prevent injury to fish, and commit to upgrading their non-compliant screens. In return, regulatory agencies are working with irrigators to identify a specific time frame and funding for their project, with specific consequences for not complying according to plan.

Costs for new enforcement programs should be included in the plan.

PLAN IMPLEMENTATION & COMMITMENTS

The objective of this section is to present implementation details (adoption process, time line, sequencing, milestones), including the specific responsibilities and commitments generated through the planning process. Especially important are funding commitments and commitments to take action within a specific timeframe.

Research Plan

It is anticipated that data gaps and areas of uncertainty will be identified throughout the planning process. The recovery plan should include an evaluation of research needs and a plan for meeting those needs. Examples include improving knowledge about species freshwater and marine/estuarine distribution and learning what capacity of estuarine/nearshore habitat is necessary to support salmonid populations at recovered levels. As with other actions, costs estimates and funding options should be identified. How the organization will respond to new information must be addressed in the adaptive management plan (below).

Monitoring And Adaptive Management

Bob Lohn, NOAA Fisheries Northwest Regional Administrator, states, “The initial rounds of local recovery planning are not expected to be perfect.

Initial rounds need to be based on existing information. As we do assessments, we will find that existing information leaves us with critical uncertainties and data gaps. Research and monitoring needs to be directed toward filling those gaps. Also, as the ESU scale of recovery planning evolves, it will provide additional context for the subbasins and the independent populations. Local recovery plans should be viewed as iterative documents that can adapt to new information and that will become more sophisticated with time.”¹⁰

Monitoring progress toward achievement of recovery goals is critical to the success of recovery plan implementation. The December 2002 *Comprehensive Monitoring Strategy*¹⁷ (CMS) identifies three scales for monitoring: a) project effectiveness monitoring, b) status and trend (extensive) monitoring, and c) validation (intensive) monitoring. The CMS provides guidance in the formation of watershed, regional and statewide monitoring plans.

Each recovery plan must include a strategy and actions to monitor the environment and populations in order to measure progress toward recovery. Progress is measured in terms of fish population characteristics as well as watershed health and administrative accountability. The geographic scale of the plan, as well as types of actions identified, will have some bearing on the types of monitoring needed. Monitoring activities must occur for each of the “H” risk categories.

Each plan must include a discussion of how the plan’s monitoring strategy is consistent with CMS elements and directives and meets requirements of the federal agencies. It is crucial that monitoring be integrated across programs and land ownerships within the planning area, consistent with monitoring programs in adjacent watersheds, and integrated with larger-scale monitoring at the regional/ESU and statewide scales

Each planning group must identify how the effectiveness of the plan is being tracked. What is the process for:

- 1) reviewing progress toward achieving plan goals?
- 2) assessing effectiveness of individual elements of the plan?
- 3) incorporating new information from research?
- 4) identifying and ensuring implementation of adaptive management?

The basic monitoring questions are “What must be monitored to determine whether goals are being achieved?” and “What is the cost of that monitoring?”

Plan Implementation Outreach

A plan for dissemination, generation of support for actions, and recruitment for willing implementers is an essential element to the success of plan implementation.

Funding Strategy and Options

An important part of implementation is the assessment of local and regional funding needs to implement the plan. This assessment must anticipate rising costs over time, and identify committed or potential funding sources. It must also make suggestions for allocating funds, or describe how it was decided to allocate funds. The intent in describing potential funding sources and allocation structures is to provide information and guidance to folks who will be implementing actions in the future (as opposed to immediate commitments to implement actions). An inventory of funding sources is a helpful component.

Economic, Social and Cultural Outcomes

Plan developers may wish to include a qualitative assessment of impacts to socio-economic sectors, or even to provide quantitative perspectives on affected economic sectors.

Implementation Schedule, Responsibilities and Commitments

Each plan must include an implementation schedule that provides a synopsis of recovery and monitoring actions and acting agents and identifies milestones during implementation. Responsibilities and commitments of acting agents should be clearly stated so that the certainty of implementation can be assessed. Include the planning group's expectation of the duration of the plan and the amount of time expected for the populations/ESU to achieve recovery. Also include a schedule for revising and updating the plan based on new information.

Adoption

A page containing the signatures of all key jurisdictions and stakeholders must be attached to the plan to indicate adoption and commitment to implement the plan.

Technical Appendices and Bibliography/References

All pertinent information should be referenced or included as appendices to maintain the plan as a valuable resource document. Raw data should NOT be included - rather, use the appendices to document steps, assumptions, analyses, etc. Examples include maps, tables and figures depicting population and/or habitat information, bibliography/reference and source lists, and descriptions of analytical tools that support decisionmaking in the plan process.

CLOSING

Salmon recovery policy is still evolving, and though the basic elements of a recovery plan have not changed, the roles of various players will continue to evolve, and guidance information may continue to be improved. For example, it is recognized that process evolution will occur in every region to address all-"H" integration; the State of Washington is working with federal agencies, tribes, and the NPCC to develop advice for how to proceed with this coordination. Also, many questions remain about the assurances expected from the federal services as a result of completing a recovery plan. New information will be posted on the WDFW (www.wa.gov/wdfw/) and Governor's Salmon Recovery Office (www.governor.wa.gov/gsro) websites as it comes available.

FOR FURTHER INFORMATION:

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FOOTNOTES & ANNOTATED BIBLIOGRAPHY

- ¹ *Technical Guide for Subbasin Planners*. 2001. Northwest Power Planning Council document 2001-20. Summary + 24 p.

This document provides an outline and suggested contents for a subbasin plan, and assists planning technicians on specific issues that may be encountered in the course of developing a subbasin plan.® The guide poses several questions that must be answered in a subbasin plan.

Available at: <http://www.nwcouncil.org/library/2001/2001-20.pdf>

The seven-page appendix to the subbasin planning manual, *Technical Guide for Developing Subbasin Assessments; Attachment 1 to Technical Guide for Subbasin Planners*, provides greater detail on what should be included in the assessment portion of the plan. The appendix lays out issues in the format of questions to be answered, coupled with tasks that lead the plan developer to develop the answers to the questions.
- ² *Integrated Recovery Planning for Listed Salmon: Technical Guidance for Watershed Groups in Puget Sound*. Puget Sound Technical Recovery Team and the Shared Strategy Staff Group. Draft, February 3, 2003.

The goal of this document is to ensure that the biological content of recovery plans is developed in sufficient detail and with sufficient information that the plans can likely be adopted as federal recovery plans. The document integrates approaches provided in previous NMFS guidance as well as NWPPC guidance to subbasin planners, and describes the process, tools and criteria for evaluating the **substance** of local-scale salmon recovery plans. In contrast, many other guidance documents (including the plan model) address primarily the **content**, or topics, that need to be covered by the assessment or plan. The Integrated Recovery Planning document is geared toward the Puget Sound domain, but its principles apply universally.

The document identifies the concepts of a viable salmonid population (VSP) as the basic building block of a recovery plan. It further provides a series of technical questions that link VSP with each planning step. This approach promotes an integrated analysis of habitat, harvest and hatchery actions, illustrates the steps in plan development using examples from existing tools, and discusses criteria that can be used to evaluate the certainty of the results predicted by the plan. Available at www.sharedsalmonstrategy.org

Available at: <http://www.nwcouncil.org/library/2001/2001-20.pdf>

- ³ Coastal Salmon Conservation: Working Guidance for Comprehensive Salmon Restoration Initiatives on the Pacific Coast. National Marine Fisheries Service. September 15, 1996. 23 + 28 p.

Intended to assist the Pacific Coast states, tribes and other entities in taking the initiative for coastal salmon restoration. The document was distributed prior to many listings at a time when states and tribes were beginning to develop plans that might avert listing, and to get a head start on restoration planning. As such, this was one of the first planning guidance documents. This document includes, as its Appendix II, Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale containing the so-called matrix of pathways and indicators that define properly functioning, at risk, and not properly functioning for a series of habitat characteristics. This appendix provides guidance to NMFS staff for making determinations of the effects of actions on the listed animal or its habitat. Appendix II also provides a checklist for documenting environmental baseline effects of proposed action(s) on relevant indicators.”

Available at: <http://www.nwr.noaa.gov/1salmon/salmesa/pubs/salmrest.pdf>

- ⁴ USDI, USFWS and USDC, NOAA. Policy for Evaluation of Conservation Efforts (PECE) when making listing decisions. March 28, 2003. Fed. Regis. 68(60): 15100-15115.

Identifies criteria the agencies will use in determining whether formalized (federal, state, local, tribal, business, organizations and individual) conservation efforts contribute to making a listing unnecessary.

- ⁵ Plan for Recovery of Puget Sound Salmon - Draft Outline. Shared Strategy for Recovery of Salmon in Puget Sound. June 29, 2001. 7 pages

This outline provides an initial look at the intended layout of the Puget Sound salmon recovery plan to be developed under the Puget Sound Shared Strategy. As guidance, this outline reflects a compilation of the various plan-writing guidance documents available at that time.

Available at <http://www.sharedsalmonstrategy.org>

- ⁶ Recovery Plan Table of Contents. Lower Columbia Fish Recovery Board. September 2002.

- ⁷ Summer Chum Salmon Conservation Initiative – An implementation plan to recover summer chum salmon in the Hood Canal and Strait of Juan de Fuca region. Washington Department of Fish and Wildlife and Point No Point Treaty Tribes. April 2000. 423 pages + appendices.

- ⁸ Guide to Watershed Planning and Management – A manual to assist Washington’s local governments and tribes with watershed planning and management under the Watershed Management Act (RCW 90.82/ESHB 2514). Association of Washington Cities, et al. Draft January 11, 1999.

⁹ Statewide Strategy to Recover Salmon – Extinction is not an option. State of Washington Governor’s Salmon Recovery Office. November 1999. 324 p. + appendices.

The SSRS provides overall guidance for the kinds of issues to be addressed in regional and local salmon recovery plans, including such topics as agriculture, forestry, land use, water quality and quantity, fish passage, harvest, artificial production, and hydropower/dams. The SSRS also provides general guidance on the topics of enforcement, education, monitoring, technical assistance, and other tools in the salmon recovery toolbox. The SSRS stresses the importance of a strong scientific foundation, a collaborative and open public process, and a long-term adaptive management strategy to be based on comprehensive monitoring of salmon recovery and watershed health.

Available at: <http://www.governor.wa.gov/gsro/default.htm>

¹⁰ Robert Lohn to Frank (Larry) Cassidy, Letter re: Subbasin Planning and the ESA, May 24, 2002. Available at:

<http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/default.htm>

This letter describes the relationship between subbasin planning and recovery planning from the NOAA viewpoint. This letter includes an attachment entitled NMFS Local Recovery Plan Guidelines that provides subbasin planners with initial guidance on what elements subbasin plans must include in order to meet ESA legal requirements.

Available at:

<http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/esaletter.htm>

Questions from the letter:

<http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/default.htm>

Attachment: Local Recovery Plan Guidelines:

<http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/recoveryplanguidelines.htm>

¹¹ Local Recovery Plan Guidelines. NOAA Fisheries. May 24, 2002. Available at: <http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/recoveryplanguidelines.htm>

Companion to Lohn/Cassidy letter, above.

¹² Guidance on Watershed Assessment for Salmon. Joint Natural Resources Cabinet. May 2001. 54 p.

A science-based framework that will help watershed groups, agencies, and others understand what kinds of assessments are needed to support decisions they make on various types of projects to protect and restore habitat for salmon. Also intended to assist the SRFB and project development groups in reviewing the adequacy of assessment information, identifying areas that need further assessment, and supporting projects with the greatest potential to benefit salmon. Available at <http://www.governor.wa.gov/gsro/regions.htm>

- ¹³ Roadmap for Salmon Habitat Conservation at the Watershed Level. Joint Natural Resources Cabinet. February 2002. 20 p. + appendices.
- The Roadmap picks up where an earlier document, the Guidance on Watershed Assessment for Salmon (May 2001), leaves off. The ARoadmap® is designed to help agency representatives and local partners determine what is needed to develop effective habitat conservation actions tailored to their specific watershed needs. The document helps in determining the most effective and efficient ways to address past, current and future effects of human activities on salmon. It provides a ARoadmap® of the steps necessary to develop and implement strategic conservation activities, and to coordinate the efforts of all salmon recovery partners within a watershed. Available at:
<http://www.governor.wa.gov/gsro/regions.htm>
- ¹⁴ ESA, section 4 [16 U.S.C. 1533] (a) (1)
- ¹⁵ Rutter, Larry. Draft white paper: The Hatchery and Genetic Management Plan Process and Integration with Subbasin Planning, TRT/Recovery Planning, and U.S. v. Oregon. Draft April 2003. NOAA Fisheries, Lacey, Washington.
- ¹⁶ Puget Sound Indian Tribes and Washington Department of Fish and Wildlife. Puget Sound Comprehensive Chinook Management Plan: Harvest Management Component. March 23, 2001.
- ¹⁷ Monitoring Oversight Committee. Washington Comprehensive Monitoring Strategy and Action Plan for Watershed Health and Salmon Recovery. Interagency Committee for Outdoor Recreation. December 2002. 3 volumes.
- The Comprehensive Monitoring Strategy and action plan identifies the most important types of monitoring activities, both current and future, in Washington, and can help local and regional recovery planners determine what types of monitoring are critical in measuring progress toward recovery.
- Available at: <http://www.iac.wa.gov/salmonmonitoring.htm>

Additional Resources:

4(d) Rule Implementation Binder for Threatened Salmon and Steelhead on the West Coast. NMFS. September 22, 2000. lots of pages.

Detailed guidance for local governments and individuals submitting programs for take exception under the 4(d) rule.

Available at <http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/4dwsbinder.htm>
And <http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/impbinder.pdf>

A Citizen's Guide to the 4(d) Rule for Threatened Salmon and Steelhead on the West Coast. NMFS. June 20, 2000. approx. 30 p.

This web document introduces and explains the 4(d) rule. It complements the final rule published in the *Federal Register* in June of 2000 by providing a more

user-friendly description of why the rule is needed, what it contains, how it will affect citizens, and how to get more information.

Available at: <http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/citguide.htm>

And <http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/4dcg.pdf>

The ESA and Local Governments: Information on 4(d) Rules. NMFS. May 7, 1999. approx. 7 p.

Web pamphlet describing the 4(d) rules using a "Frequently Asked Questions" format.

Available at: <http://www.nwr.noaa.gov/1salmon/salmesa/4dguid2.htm>

Additional 4(d) information at:

<http://www.nwr.noaa.gov/1salmon/salmesa/final4d.htm>

Oregon Specific Guidance. Oregon Subbasin Planning Coordination Group. October 2, 2002.

This guide, prepared by Oregon's statewide Subbasin Planning coordination group, builds upon the NWPPC Technical guide to provide a plan outline and further advice as to plan content. In doing so, it covers sometimes excruciating detail that may be of interest to Washington subbasin planners. It also extensively covers Oregon process topics, which should not be confused with the process Washington subbasins are following to develop subbasin plans (e.g., a Lead Entity in Oregon does not equal a Lead Entity in Washington).

Available at:

<http://www.nwcouncil.org/fw/subbasinplanning/admin/level2/or/OregonGuidance.pdf>

Recovery Planning for West Coast Salmon. NMFS. Updated August, 2000. 7 parts.

This web document provides a brief overview of NMFS salmon recovery planning approach for NMFS Northwest and Southwest Regions.

Available at: <http://research.nwfsc.noaa.gov/cbd/trt/overview.htm>

FAQ at: <http://research.nwfsc.noaa.gov/cbd/trt/faq.htm>

Recovery Planning Guidance for Technical Recovery Teams (TRTs) (PDF) NMFS. Updated September 1, 2000. 21 p.

A summary of NMFS recovery policy, and detailed description of the charge and operation of TRTs. Directed at TRT coordinators and members.

Available at: <http://research.nwfsc.noaa.gov/cbd/trt/overview.htm>

Reference Guide to Salmon Recovery. Joint Natural Resources Cabinet. February 2002. 13 + 4 p.

This document helps clarify what salmon recovery means, what is happening, and who is involved at different geographic scales. It also provides information on the mechanics of various ESA compliance avenues, and a snapshot of recovery planning activities in Washington, from the federal and state levels all the way down to the watershed scale. After reading this document, people who

are interested in salmon recovery activities in their watershed will better understand the broader context of salmon recovery and how to become involved. The Guide also identifies some of the sources of additional information that are available.

Available at: <http://www.governor.wa.gov/gsro/regions.htm>

Wy-Kan-Ush-Mi Wa-Kish-Wit. Spirit of the Salmon. The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes

Two volumes: Vol. 1: Science and Culture; Vol. 2: Individual Subbasin Plans

Available at: <http://www.critfc.org/text/trp.html>